AMSAT News Service Weekly Bulletins
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SB SAT @ AMSAT $ANS-228.01
KITSAT-OSCAR-23 IS BORN!

HR AMSAT NEWS SERVICE BULLETIN 228.01 FROM AMSAT HQ
SILVER SPRING, MD AUGUST 15, 1992 BID:$ANS-228.01
TO ALL RADIO AMATEURS BT

KITSAT-OSCAR-23 (KO-23) IS BORN!

With a picture perfect launch from the Kourou, French Guiana spaceport, and a flawless separation from the third stage of an Ariane rocket, KITSAT-OSCAR-23 (KO-23) was born this week shortly before midnight August 11 (UTC). KO-23 joins a proud family of OSCARs that provide packet radio store-and-forward capability, ie., AO-16, LO-19, FO-21, and UO-22. In addition, KO-23 goes even one step further than its predecessors. It contains two built-in charged coupled device (CCD) cameras capable of providing either 4 km resolution or 400 meter resolution. Another exciting aspect which sets KO-23 apart from the other PACSATs is its Digital Signal Processing Experiment (DSPE). Many OSCAR users have encountered the power of Digital Signal Processing (DSP) whenever they use AO-21's FM transponder. Still, more have heard the AO-21's digital voice synthesizer speaking foreign language messages of greeting. KO-23 will take this DSP application one step further by allowing the user to leave voice mail. In other words, "store-and-forward" voice messages could become a standard mode of operation.

Look for KO-23's downlink signal at 435.175 MHz. When KO-23 becomes operational in a few weeks, users can access the 9600 baud FSK BBS on the uplink frequencies of 145.850 MHz or 145.900 MHz. However, until such time as the KO-23 Ground Command Team releases the satellite for general use, ALL ARE ASKED NOT TO UPLINK TO KO-23.

KO-23 is a joint effort between the University of Surrey (UoS) and the Korean Advanced Institute Of Technology (KAIST).

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SB SAT @ AMSAT $ANS-228.02
KO-23 STATUS REPORT

HR AMSAT NEWS SERVICE BULLETIN 228.02 FROM AMSAT HQ
SILVER SPRING, MD AUGUST 15, 1992 BID:$ANS-228.02
TO ALL RADIO AMATEURS BT

G0/K8KA Provides KITSAT-OSCAR-23 (KO-23) Status Report

Jeff Ward (G0/K8KA) and the ground controllers at HL0ENJ report that the KO-23 commissioning process is going extremely well. They have reached the following milestones:

1) The on-board computer (OBC) software has been uploaded which include the such important functions as housekeeping, the file system, command software, and the Attitude Determination Control and Stabilization (ADCS) software.

2) The "tumble-rate" of KO-23 has been reduced drastically now that the ADCS has been firing the magnetorquers. With the "tumble" rate coming down, this will facilitate a smooth deployment of the gravity gradient boom. The boom helps keep KO-23 pointed towards the earth.

Jeff requests that stations with the "foot-print" of HL0ENJ please not QRM the uplink channels on KO-23. This will only prolong the commissioning process. For those who would like to decode the telemetry from KO-23, you can obtain a copy of the DTLM.EXE program from AMSAT-UK.

Stay tuned to the AMSAT Nets and the ANS bulletins for updates on the status of amateur radio's newest OSCAR.

[The AMSAT News Service (ANS) would like to thank G0/K8KA and the ground controllers at HL0ENJ for this status report.]

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SB SAT @ AMSAT $ANS-228.03
AO-16 UPDATE

HR AMSAT NEWS SERVICE BULLETIN 228.03 FROM AMSAT HQ
SILVER SPRING, MD AUGUST 15, 1992 BID: $ANS-228.03
TO ALL RADIO AMATEURS BT

WB9ANQ Provides AO-16 Update

A joint test team, composed of members from the AO-16 Ground Command Team and the MICROSAT design team, has been conducting a series of tests on the AO-16's subsystems since the July 27 on board computer reset. The tests conducted to date have provided the test team valuable information on the overall health of the spacecraft; subsystem performance degradation since launch; and have clarified some discrepancies noted in the telemetry channel assignments.

A capsule summary of the significant findings to date are:

1. The performance of the straight PSK transmitter (437.025 MHz) has degraded since launch. To provide better service to the user community, the team decided to switch transmitters and use the raised cosine transmitter (437.050 MHz) as AO-16's primary mission transmitter.

2. Six channels of temperature data in the telemetry stream have been mislabeled since launch. An update of the corrected telemetry decoding information will be published in the near future.

3. With the exception of the straight PSK transmitter, all of the systems on AO-16 are in good health and continue to perform as expected.

Details of the tests conducted and findings will be presented at the AMSAT-NA Symposium in Washington, D.C. during October 9-11th.

While the performance of these tests has delayed the loading of the new file server system software longer than expected, they are important to ensure the long term operation of the spacecraft and to gather data which will be used to enhance the performance of follow-on MICROSAT class spacecraft. The Command Team now estimates that testing will be completed in one to two weeks at which time loading of the new file server system software, which supports the directory broadcast feature, will commence.

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SB SAT @ AMSAT $ANS-228.04
AMSAT OPERATIONS NET SCHEDS

HR AMSAT NEWS SERVICE BULLETIN 228.04 FROM AMSAT HQ
SILVER SPRING, MD AUGUST 15, 1992 BID: $ANS-228.04
TO ALL RADIO AMATEURS BT

AMSAT-NA Operations Net Schedule

AMSAT Operations Nets are planned for the following times. Mode B nets are conducted on AO-13 on a downlink frequency of 145.950 MHz and the Mode J/L Nets on a downlink of 435.970 MHz.

Date	UTC	Mode	Phs	NCS	Alt
22-Aug-92	1435	J	55	WA5ZIB	WJ9F
29-Aug-92	1900	B	72	W9ODI	N7NQM
12-Sep-92	1600	B	79	W5IU	WA5ZIB

Guest commentators are planned for each Net. Join the Net if you have questions. In the unlikely event that either the Net Control Station (NCS) or the alternate do not call on frequency, any participant is invited to act as NCS.

Slow Scan Television on AO-13

SSTV planning sessions will follow the AMSAT Operations Nets. The Fall SSTV schedules will require input from all interested operators. Try all AMSAT Nets to set up impromptu schedules. Sample SSTV pictures are on AMSAT's landline BBS at (214) 394-7438 and on LUSAT-OSCAR-19 (LO-19).

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SB SAT @ AMSAT $ANS-228.05
AO-21 RUDAK SPEAKS RUSSIAN!

HR AMSAT NEWS SERVICE BULLETIN 228.05 FROM AMSAT HQ
SILVER SPRING, MD AUGUST 15, 1992 BID: $ANS-228.05
TO ALL RADIO AMATEURS BT

AO-21/RS-14 RUDAK-2 Digital Speech Synthesizer Experiment Speaks Russian!

DB2OS reports that the new schedule for AO-21's transponder is the follow:

6 Minutes FM DSP-Repeater --> Uplink: 435.016 MHz
3 Minutes Digital VOICE in FM --> Downlink: 145.987 MHz
1 Minute 400 Bit/s PSK Telemetry

[Note that this means that AO-21 in the FM DSP-repeater mode for 6 minutes out of a 10 minute period, then 3 minutes of the 10 minutes and then finally 1 minute of 400 baud PSK telementry. This cycle is repeated for every 10 minute period every hour of the day.]

The RUDAK speech synthesizer experiment is speaking a Russian language message. N0ISE has translated the message to English as follows:

"RUDAK-2 RADIO SATELLITE 14 OPERATING NORMALLY. HELLO TO THOSE ON THE GROUND AND THE COSMONAUTS IN THE SPACE STATION MIR."

Those who copy this message and would like to receive a QSL card, please write down message in your language (or in Russian) and send your QSL card to RK3KP.

[The AMSAT News Service (ANS) would like to thank Gerhard (DG2CV), Peter (DB2OS), and Leo (UA3CR) for this bulletin item. Also, a special thanks goes to thank Tim White (N0ISE), second harmonic of WD0E, who is a Russian language major at Colorado University in Boulder, CO for his translation of the RUDAK Russian language message.]

/EX
SB SAT @ AMSAT $ANS-228.06
AO-13 TRANSPONDER SCHEDULES

HR AMSAT NEWS SERVICE BULLETIN 228.06 FROM AMSAT HQ

SILVER SPRING, MD AUGUST 15, 1992 BID: $ANS-228.06
TO ALL RADIO AMATEURS BT

G3RUH Provides Current & Future AO-13 Operating Schedules

On 1992 Aug 17 [Mon] the Sun angle will have fallen to 30 degrees (87% illumination), and the full B/JL/S AO-13 schedule will be implemented as previously announced:

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 L G3RUH/DB2OS/VK5AGR  *** Future  AO-13 Transponder Schedule ***
 Mode-B  : MA   0 to MA  40 !     from  1992 Aug 17 - Sep 21
 Mode-S  : MA  40 to MA  50 !<- S transponder; B trsp. is OFF!
 Mode-LS : MA  50 to MA  55 !<- S beacon + L transponder
 Mode-JL : MA  55 to MA  70 !   This schedule operates
 Mode-B  : MA  70 to MA 256 !   every orbit, every day.
 Omnis   : MA 160 to MA  10 !     Blon/Blat 150/0
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Mode B users are reminded that at MA 40, the Mode B transponder will be heard to go OFF with a click. Although you will still hear the Mode B beacon, do not attempt to uplink as you will get no Mode B response; however you could interfere with Mode S. Mode B returns at MA 70.

Note too that this schedule operates every orbit, every day.

The next event will commence on 1992 Sep 21 [Mon] with a move to attitude 180/0 with a B/JL/S schedule. The schedule will be as follows:

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M G3RUH/DB2OS/VK5AGR  *** Future  AO-13 Transponder Schedule ***
Mode-B  : MA   0 to MA 130 !     from  1992 Sep 21 - Nov 23
Mode-S  : MA 130 to MA 140 !<- S transponder; B trsp. is OFF!
Mode-LS : MA 140 to MA 145 !<- S beacon + L transponder
Mode-JL : MA 145 to MA 160 !   This schedule operates
Mode-B  : MA 160 to MA 256 !   every orbit, every day.
Omnis   : MA 235 to MA  30 !     Blon/Blat 180/0
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